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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,290	06/19/2001	Chow Feng Chiang	MR2723-84	9676
4586	7590	01/29/2004	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			CLOW, LORI A	
			ART UNIT	PAPER NUMBER

1631

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding:

Office Action Summary	Application No.		Applicant(s)	
	09/883,290		CHIANG ET AL.	
	Examiner		Art Unit	
	Lori A. Clow, Ph.D.		1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election without traverse of Group I in the response dated 3 November 2003 is acknowledged.

Claims 1-5 are currently pending. Claims 6-15 have been cancelled.

Claim Objections

Claim 1 recites "a method for determining biological heat potential of biological reaction systems". This is grammatically incorrect and should read "a method for determining a biological heat potential of a biological reaction system". Correction is requested.

Claim 1 recites, at line 2, "the ATAT" system. This is an abbreviation and should be spelled out for clarity in the claim language.

Claim 1 recites "which comprising" at line 3. This is grammatically incorrect and should read "which comprises". Correction is requested.

Claim 1, line 8 recites "controlling and supplying a pure oxygen". This is grammatically incorrect and should read "controlling and supplying pure oxygen".

Claims 2 and 3 recite "which comprising means". This is grammatically incorrect and should read "which **comprises a** means for controlling".

Claim 4, line 7, recites "where h_b **being** the specific biological heat potential in the unit of kcal/g BOD_r, O_u **being** the accumulated oxygen uptake data in the unit of g, J_o **being** the heat loss flux in the unit of kcal/min, and H_c **being** the accumulated compensation heat in the unit of kcal".

This is grammatically incorrect and should be amended to read "where h_b **is** the specific biological heat potential in the unit of kcal/g BOD_r, O_u **is** the accumulated oxygen uptake data in

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the unit of g, J_o is the heat loss flux in the unit of kcal/min, and H_c is the accumulated compensation heat in the unit of kcal”.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 1, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation “a method for determining biological heat potential of biological reaction systems”, and the claim also recites “particularly the ATAT system” which is the narrower statement of the range/limitation.

Claim 1 recites, beginning line 3, “using an acclimation apparatus to incubate an aerobic culture and transferring the culture into a reactor for the biological reaction test”. These are two separate steps and should be written in separate sentences. This is indefinite because it is not clear whether or not the acclimation apparatus is transferred along with the culture or if the culture is acclimatized and then transferred.

Claim 1, line 5, recites “reactor for **the** biological reaction test”. There is insufficient antecedent basis for “the biological reaction test” in the claim and should be amended to read “a biological reaction test”.

Claim 1, line 5, recites “the biological reaction test”. It is unclear what is meant by the biological reaction test. Which biological reaction test?

Claim 1, line 6, recites “controlling, heating, and recording an ambient air”. It is unclear what is meant by controlling. What is being controlled? Is a fan controlled, as in the specification at page 9?

Claim 1, line 9, recites “in a headspace of reactor”. This is grammatically incorrect and should read “in a headspace of **the** reactor”.

Claim 1 recites “recording an on-line and real-time oxygen uptake data”. This is grammatically incorrect and should read “recording on-line and real-time oxygen uptake data”.

Claim 1 recites “on-line and real-time oxygen uptake data”. It is unclear as to the difference between on-line and real-time data. Does on-line data imply being connected to the internet?

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Claim 1, line 14, recites “using the oxygen uptake data and the heat compensation data”. This is confusing and should be amended to clarify that the oxygen uptake data and the heat compensation data are recorded data.

Claim 1, line 15, recites “using the oxygen data and the heat compensation data to compute a specific biological heat potential and a heat loss flux”. It is unclear as to what the heat potential and heat loss flux is computed for. Is it computed for the reaction system, the aerobic culture or some other parameter?

Claim 1, beginning line 16, recites “using the calculated specific heat potential and the heat loss flux to compute a transient heat compensation ratio and a minimal heat compensation ratio during a reaction period”. However, this is unclear because the preamble is directed to a method for determining biological heat potential of a biological reaction system. This final step is not in agreement with the preamble.

Claim 2 is unclear in that it is a method for determining biological heat potential as recited in claim 1 wherein the on-line and real-time oxygen uptake data is obtained with an oxygen controller, which comprises a means for controlling and providing the oxygen depleted in the reactor. It is unclear as to what applicant intends the limitation of “comprising means for controlling and providing the oxygen depleted in the reactor” to limit. Is it the method or is it the oxygen controller?

Claim 3 is unclear in that it is a method for determining biological heat potential as recited in claim 1 wherein the on-line and real-time heat compensation data is obtained with a heat compensation controller, which comprises a means for controlling and heating the content of the reactor. It is unclear as to what applicant intends the limitation of “comprising means for

controlling and heating the content of the reactor” to limit. Is it the method or is it the heat controller?

Claim 4 recites “the heat compensation data are analyzed by a heat balance equation”. This is unclear in that an equation cannot analyze. Perhaps applicant intends the claim to read “the heat compensation data are calculated from a heat balance equation”.

Claim 4 recites “a heat balance equation considering a reaction term”. Perhaps applicant intends the claim to read “a heat balance equation comprising a reaction term”.

Claim 4, line 10, recites “heat in the unit of kcal; **and**”. Perhaps applicant intends to recite “heat in the unit of kcal; **wherein**”.

Claim 4, line 11, recite “integrating equation (1) with the initial conditions of”. There is insufficient antecedent basis in the claim for (1). Also, the recitation of “with the initial conditions of” does not make sense, as these are numbers and not conditions. It is also unclear as to what previous step this is intended to limit. Is it the specific biological heat potential?

No claims are allowed.

Inquiries

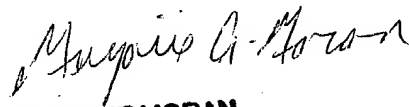
Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242, or (703) 308-4028.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward, Ph.D., can be reached on (571) 272-0722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Legal Instrument Examiner, Tina Plunkett, whose telephone number is (703) 305-3524, or to the Technical Center receptionist whose telephone number is (571) 272-0549.


MARJORIE MORAN
PATENT EXAMINER

January 23, 2004

Lori A. Clow, Ph.D.

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